

**REMARKS**

This is a full and timely response to the Office Action mailed August 25, 2008, submitted concurrently with a one month extension of time to extend the due date for response to December 26, 2008.

By this Amendment, claims 1, 2, 8 and 13 have been amended to more particularly define the present invention and to address the rejection under 35 U.S.C. §112, second paragraph. Thus, claims 1-15 are currently pending in this application with claims 3, 4, 6, 7, 11 and 12 being withdrawn. Support for the claim amendments can be readily found variously throughout the specification and the original claims.

In view of these amendments, Applicant believes that all pending claims are in condition for allowance. Reexamination and reconsideration in light of the above amendments and the following remarks is respectfully requested.

**Rejections under 35 U.S.C. §112**

Claims 1, 2, 5, 8-10, and 13-15 are rejected under 35 U.S.C. §112, first paragraph, for allegedly lacking written description. Applicant respectfully traverses this rejection.

Applicant wishes to direct the Examiner's attention to page 6, line 15, to page 7, line 1, of the specification which Applicant believes, clearly support the limitations noted by the Examiner (i.e. *"wherein at least one scribe line in the second direction intersects with at least one scribe line of the first direction,"* and *"wherein the formation of the intersection between the scribe line in the second direction and the scribe line of the first direction occurs without the scribe means being pressed against the existing scribe line in the brittle material substrate"*).

In particular, Applicant believes that the descriptions (1) *"a vertical crack reaches the scribe line of the first direction"* and *"a vertical crack reaches this next scribe line of the first direction"* (due to the vertical crack advance phenomenon) and (2) *"at least one scribe line of the second direction intersecting with the at least one scribe line of the first direction"*, clearly supports the limitation *"at least one scribe line in the second direction intersects with at least one scribe line of the first direction."* Further, Applicant believes that the description *"by letting the scribe means travel while avoiding the scribe lines of the first direction, the load of the scribe means is ultimately*

*not applied to the intersections between the scribe lines of the first direction and the scribe lines of the second direction" clearly supports the limitation "the formation of the intersection between the scribe line in the second direction and the scribe line of the first direction occurs without the scribe means being pressed against the existing scribe line in the brittle material substrate".*

Thus, Applicant respectfully requests withdraw of this rejection in view of the descriptions in the specification.

Further, claims 1, 2, 5, 8-10, and 13-15 are rejected under 35 U.S.C. §112, second paragraph, for allegedly being indefinite. Applicant believes that the amendments to claims 1 and 2 overcome this rejection by addressing the concerns raised by the Examiner. Thus, in view of such amendments to the claims, withdrawal of the outstanding rejection is respectfully requested.

#### **Rejections under 35 U.S.C. §102 and §103**

Claims 2 and 13-15 are rejected under 35 U.S.C. §102(b) as allegedly being anticipated by any one of the previously cited Shimotoyodome et al. patents (U.S. Patent No. 6,460,258, U.S. Patent No. 6,470,782, and U.S. Patent No. 6,478,206) or, in the alternative, under 35 U.S.C. §103(a) as allegedly being obvious over any one of the Shimotoyodome patents in view of newly cited Zumstein (U.S. Patent No. 3,834,258). Applicant respectfully traverses these rejections.

To constitute anticipation of the claimed invention under U.S. practice, the prior art reference must literally or inherently teach each and every limitation of the claims. Further, to establish a *prima facie* case of obviousness, the cited reference(s) must teach or suggest the invention as a whole, including all the limitations of the claims. Here, in this case, the Shimotoyodome et al. patents, either alone or in combination with Zumstein, fails to teach or suggest the claim limitations "*wherein the formation of the intersection between the scribe line in the second direction and the scribe line of the first direction occurs without the scribe means being pressed against the existing scribe line in the brittle material substrate, "wherein, in the formation of at least one scribe line in a second direction, the scribe means presses against the brittle material substrate at a scribe start position and a scribe stop position which are set at a distance of 0.5 to 0.7 mm from the scribe line of the first direction", "a scribe means for generating a high-*

*penetration vertical crack in the brittle material substrate by applying impacts of a short period to the point on the surface of the brittle material substrate,"and "a travel motion control means for controlling the travel motion of said scribe means, wherein said travel motion control means prevents said scribe means from traveling across the at least one scribe line of the first direction".*

The Examiner has maintained the outstanding prior art rejections on the belief that the Shimotoyodome patents each disclose a scribe apparatus which comprises all of the claimed structures and is capable of performing the recited functions since the moving mechanism of the Shimotoyodome patents allow for vertical movement of the scribe means. In other words, the Examiner argues that the Shimotoyodome patents is fully capable of being operated to advance to a cross scribe line, be raised above the workpiece and scribe line, advanced across the scribe line without contacting the scribe line, lowered on the other side of the scribe line, and then advanced along the workpiece. The Examiner also argues that the use of programmable computers (i.e. travel motion control means) with scribing or scoring devices is old and well known in the art and provides various well known benefits including automatic operation of the scribing or scoring device. The Examiner takes judicial notice of this fact and cites Zumstein as an example of the use of a computer to control a scribing/scoring device for cutting any desired pattern. However, based on Applicant's review of the cited references, Applicant strongly disagrees with the Examiner's conclusions in this regard.

Applicant believes that the moving mechanisms of the Shimotoyodome patents are not specifically programmed to determine when and at which point the vertical movement of the scribe means is initiated. In other words, contrary to the Examiner's arguments, the scribe apparatuses of Shimotoyodome do not comprise all of the claimed structures and are not capable of producing the claimed scribe lines since the Shimotoyodome patents do not teach or suggest a travel motion control means specifically programmed to form the intersection between the scribe line in the second direction and the scribe line of the first direction without the scribe means being pressed against the existing scribe line in the brittle material substrate.

In addition, this deficiency of Shimotoyodome is not cured by the teachings and suggestions of Zumstein. Zumstein only teaches the use of computer to control cutting apparatuses but do not specifically teach a travel motion control means specifically programmed to form the

intersection between the scribe line in the second direction and the scribe line of the first direction without the scribe means being pressed against the existing scribe line in the brittle material substrate.

In addition, with respect to a scribe apparatus equipped with a scribe means for generating a high-penetration crack, the present invention is characterized by the cutter action for forming a point of intersection between scribe lines (i.e. *"a scribe means for generating a high-penetration vertical crack in the brittle material substrate by applying impacts of a short period to the point on the surface of the brittle material substrate"*). The cited references, Shimotoyodome and Zumstein, never mention the claimed cutter action and never describe a phenomenon wherein use of the scribe means for generating a high-penetration crack causes the ends of a crack to advance slightly from a scribe starting position and a scribe stop position (corresponding to the positions where the cutter starts and ends to apply pressure onto the surface). Hence, Applicant believes that the Examiner is incorrect in his conclusions that the claimed cutter action of the present invention is obvious from the cited references.

Nevertheless, to more particularly distinguish the present invention from the teachings of the cited references, Applicant has amended the claims to recite an additional limitation *"wherein, in the formation of at least one scribe line in a second direction, the scribe means presses against the brittle material substrate at a scribe start position and a scribe stop position which are set at a distance of 0.5 to 0.7 mm from the scribe line of the first direction"* to more specifically define the range of the scribe start position and the scribe stop position so that the crack can reach the existing scribe line. Applicant submit that by setting the scribe start position and the scribe stop position at a distance of 0.5 to 0.7 mm from the scribe line of the first direction, the present invention allows for the formation of intersecting scribe lines without the occurrence of chipping, chafing and splintering defects at the scribe line intersections. Such superior features of the present invention cannot be expected based on the teachings of the Shimotoyodome patents and Zumstein. As the Examiner already knows, presence of a property not possessed by the prior art is evidence of nonobviousness. *In re Papesch*, 315 F.2d 381, 137 USPQ 43 (CCPA 1963).

Thus, for these reasons, withdrawal of the outstanding rejections is respectfully requested.

**Request for Rejoinder**

Applicant also hereby formally requests rejoinder of non-elected claims 6, 7, 11 and 12 upon the allowance of the elected claims. The non-elected claims include all the limitations of the allowable claims in accordance with §821.04 of the MPEP.

**CONCLUSION**

For the foregoing reasons, all the claims now pending in the present application are believed to be clearly patentable over the outstanding rejections. Accordingly, favorable reconsideration of the claims in light of the above remarks is courteously solicited. If the Examiner has any comments or suggestions that could place this application in even better form, the Examiner is requested to telephone the undersigned attorney at the below-listed number.

Dated: December 24, 2008

Respectfully submitted,

By:  \_\_\_\_\_

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